

WIDGEON PIT
Warrick County
2005 Fish Management Report

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EXECUTIVE SUMMARY

- Widgeon Pit is an 11.0-acre reclaimed strip pit located at Blue Grass Fish and Wildlife Area. The pit has an average depth of approximately 3.0 ft and a maximum depth of 5.0 ft. Shoreline fishing is excellent, however, there are no boat ramps. There are no fees to gain entry to the pit.
- A standard lake survey was conducted at Widgeon Pit on June 20 and 21, 2005. An aquatic vegetation survey was conducted on August 10.
- The Secchi disk reading was 10 in. Dissolved oxygen concentrations were adequate for fish survival throughout the water column. Submersed aquatic vegetation was found to a maximum depth of 4.0 ft with an average rake score of 1.96. Eurasian watermilfoil was the dominant species collected followed by coontail, naiad spp., and leafy pondweed.
- A total of 190 fish, representing eight species and one hybrid, was sampled that weighed 45.28 lbs. Gizzard shad ranked first by number followed by bluegill and largemouth bass. By weight, largemouth bass ranked first and gizzard shad ranked second.
- The pit's fishery should not be resurveyed again until a new electrofishing system is obtained that is effective in high conductive waters. The current fishing regulations should not be changed.

INTRODUCTION

Widgeon Pit is an 11.0-acre reclaimed strip pit located at Blue Grass Fish and Wildlife Area. The property is in NW Warrick County about 1 mi E of Interstate 164. Maps of the property are available at Sugar Ridge Fish and Wildlife Area headquarters and on the Internet at <http://www.in.gov/dnr/fishwild/publications/blue.htm>. Widgeon Pit does not possess the physical characteristics of a reclaimed strip pit. The pit has an average depth of approximately 3.0 ft and a maximum depth of 5.0 ft. Widgeon Pit's overflow is directly connected to Blue Grass Pit during flood events. Shoreline fishing is excellent and there are no boat ramps, but carry-in boats are allowed. There are no fees to gain entry to the pit.

The pit's fishery is regulated by Indiana's standard length and bag limit regulations. Due to the high conductivity, the electrofishing boat is not as efficient at stunning fish at Widgeon Pit as in lakes with lower conductivities which resulted in fewer fish being sampled. The 2002 survey revealed gizzard shad to be the dominant species, bluegill and redear sunfish growth was at the low end of the district average, and the bass electrofishing catch rate substantially decreased (Carnahan 2001 and 2003).

METHODS

The fish survey was conducted on June 20 and 21, 2005 under Division of Fish and Wildlife (DFW) Work Plan 202478. The goal of the survey was to monitor the fishery. Some of the pit's physical and chemical characteristics were measured according to standard guidelines (Indiana DFW 2001). Submersed aquatic vegetation was sampled on August 10, 2005, using guidelines written by Pearson (2004). A GPS unit was used to record the location of the limnological data collection site, aquatic vegetation sample sites, and fish sample sites.

Fish sampling effort consisted of pulsed DC night electrofishing with two dippers for 0.37 h and two trap net lifts. Gill nets were not used due to the shallow depth. All fish collected were measured to the nearest 0.1 in TL. Average weights for fish by half-inch groups for Fish Management District 7 were used to estimate the weight of all collected fish. Scale samples were taken from a subsample of bluegill and largemouth bass for age and growth analysis. Proportional stock density (PSD), relative stock density (RSD), and the bluegill fishing potential (BGFP) index were not used due to the small sample size.

RESULTS

Widgeon Pit was very turbid with a Secchi disk reading of 10 in. Dissolved oxygen concentrations were adequate for fish survival throughout the water column (bottom = 4.0 ft). The water conductivity was 1,823 μ S. Submersed aquatic vegetation was found to a maximum depth of 4.0 ft with an average rake score of 1.96. Eurasian watermilfoil was the dominant species collected, followed by coontail, naiad spp., and leafy pondweed. Filamentous algae was also present at 96% of the sampling sites.

A total of 190 fish, representing eight species and one hybrid, was sampled that weighed 45.28 lbs. Gizzard shad ranked first by number (50%) followed by bluegill (26%) and largemouth bass (11%). Largemouth bass ranked first by weight (42%), gizzard shad ranked second (31%), and common carp was third (20%). Other species sampled included 16 orangespotted sunfish, 3 common carp, 3 golden shiner, 2 redear sunfish, 2 hybrid sunfish, and 1 blackstripe topminnow.

Ninety-four gizzard shad were sampled that weighed 14.12 lbs. They ranged in length from 1.2 to 11.6 in. Relative abundance by number and weight slightly decreased from 2002. The gizzard shad electrofishing catch rate was 251.4/h.

A total of 49 bluegill was sampled that weighed 1.66 lbs. They ranged in length from 1.5 to 6.2 in. Relative abundance by number slightly decreased while relative abundance by weight remained about the same from 2002. Bluegill catch rates fluctuated little from 2002 and were 121.6/electrofishing h and 2.0/trap net lift. Growth was slightly below the district average at ages 1 and 2 and below average at age 3. Growth for all ages decreased since 2002.

Twenty largemouth bass were sampled that weighed 19.21 lbs. They ranged in length from 1.7 to 18.8 in. Relative abundance by number remained about the same, while relative abundance by weight greatly increased. The largemouth bass electrofishing catch rate increased from 29.8 (2002) to 54.1/h. Growth for all ages was average compared to the district average. Growth for age-1 and age-2 bass was similar to 2002, while growth for age-3 and age-4 bass decreased from 2002. Only one age-1 bass was sampled.

DISCUSSION

Electrofishing catch rates were low at Widgeon Pit due to the high conductivity and turbid water. Many fish were observed jumping out of the water in front of the electrical field

and hence were not captured. Management possibilities at this lake are limited due to the presence of gizzard shad and common carp, the pit's small size, shallow average depth, and frequent fish passage from Blue Grass Pit.

The largemouth bass fishery has not rebounded to the level it was prior to the pit opening up to public fishing. This is supported by the decreased electrofishing catch rate from 2000. The 2000 bass electrofishing catch rate, for bass at least 15 in long, was 31.5/h compared to 2.1 and 5.4 in 2002 and 2005. Also, the daytime electrofishing in 2000 normally produces a much lower catch rate than night electrofishing done in 2002 and 2005. The current survey did show an increase in the bass relative abundance by weight, however, this increase is explained by a decrease in the relative abundance by weight of "other" species and not a shift towards larger bass. Very few age-1 bass were sampled in this survey. This is either a result of low reproduction and recruitment, and/or the smaller bass not being as vulnerable to the electrofishing gear as larger bass. Bass growth should continue to be good with the abundant forage base of gizzard shad, small bluegill, and orangespotted sunfish.

Due to the limiting factors of this pit, it is recommended to continue with the current statewide regulations. The pit's fishery should not be resurveyed again until a new electrofishing system is obtained that is effective in high conductive waters.

RECOMMENDATIONS

- Continue with the current statewide regulations.
- The pit's fishery should not be resurveyed again until a new electrofishing system is obtained that is effective in high conductive waters.

LITERATURE CITED

- Carnahan, D. P. 2001. Fisheries spot check survey results from six reclaimed pits at Blue Grass Fish and Wildlife Area. Indiana Department of Natural Resources. Indianapolis. 51 pp.
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